Research Square

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HIV Testing Preferences Among Trans Men and Trans Women: A Retrospective Study of Client Records from 2017 to 2019 in a Community-Based Transgender Health Center in Metro Manila, Philippines

Zypher Jude Regencia
University of the Philippines Manila
Aisia Castelo
LoveYourself Inc.
Patrick Eustaquio
LoveYourself Inc.
Yanyan Araña
LoveYourself Inc.
John Oliver Corciega
LoveYourself Inc.
John Danvic Rosadiño
LoveYourself Inc.
Ronivin Pagtakhan
LoveYourself Inc.
Emmanuel Baja (esbaja@up.edu.ph)
University of the Philippines Manila

Research Article

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Abstract

Background: Transgender individuals are considered as high-risk for contracting HIV infection. Integrating HIV testing and counseling (HTC) services into current transgender health programs is necessary to increase its uptake. Our study aimed to describe the characteristics of trans men (TM) and trans women (TW) who accessed HTC services in a community-based transgender health center in Metro Manila, Philippines, and to examine the relationship between gender identity and their HIV testing preferences.

Methods: We conducted a retrospective study of TM and TW seeking care from 2017 to 2019. Medical records of clients were reviewed to ascertain their age, gender identity, year and frequency of clinic visits, lifestyle factors, and HIV testing preferences. The effect of gender identity on HIV testing preferences was estimated using a generalized linear model with Poisson distribution, log link function, and a robust variance, adjusted for confounding variables.

Results: Five hundred twenty-five clients were included in the study, of which about four out of five clients declined the HTC services being offered. In addition, the prevalence of non-uptake of HTC services was 48% higher [adjusted Prevalence Ratio (aPR): 1.48; 95% Confidence Interval (CI): 1.31–1.67] among TM compared to TW. Clients who initially consulted in 2017 had a 25% higher prevalence of refusal for HTC services (aPR: 1.25; 95% CI: 1.08–1.43) than clients who initially consulted in 2019. Approximately 4% and 11% of the TM and TW, respectively, who accessed the HTC services were reactive and linked to antiretroviral therapy treatment.

Conclusion: HTC service uptake of TM and TW is low. HIV program implementers should strategize solutions to reach this vulnerable population for increased and better HTC service uptake and linkage to care.

Background

The transgender population is recognized as an at-risk group for HIV and other sexually transmitted diseases [1]. Across the world, a pooled HIV prevalence of 19.1% was reported for transgender women [2]. Moreover, the Center for Disease Control and Prevention in 2013 reported that in the 3.3 million HIV testing events conducted, the estimates of transgender individuals newly diagnosed with HIV were nearly three times the national average [3].

This increase in HIV/AIDS cases is consistent with multilevel drivers of HIV among the community, including social stigma and discrimination [4]. In addition, the current state of our society is directly inclining towards its conventional heteronormative behavior, which fuels the failure in judgment over the transgender community [5]. This ideology increases the vulnerabilities of transgender people to HIV/AIDS in the context of their behaviors, attitudes, and risk practices [6].

Being considered a marginalized population, transgender people are victims of disparities in better access to health, including non-availability of transgender health services, care refusal, substance abuse,

and poor mental and sexual health outcomes [7]. This observation parallels the lack of direct research evidence, existing levels of stigma and discrimination, and narrowed options for healthcare such as gender affirmation services, preventive health screenings, and mental health interventions [8].

Transgender people are reported to have significantly inferior lifetime rates of HIV testing relative to cisgender gay and bisexual men. Conversely, HIV testing rates are likely to be lower among transgender adolescents [9]. It is also reported that sexually active transgender youth had STI prevalence between 1.40–2.80% [10]. Increased levels of discrimination such as denial of medical services and harassment in healthcare settings[11, 12] as well as expected discrimination have been associated with postponement or delay of medical services among the transgender population [13, 14].

To address the HIV/AIDS burden, local HIV prevention combination programs that are trans-inclusive are increasing [15]. Strategies include HIV self-testing, Pre-Exposure Prophylaxis (PrEP) and Post Exposure Prophylaxis (PEP), condoms and lube, and other biopsychosocial methods. Engagement in these programs and services will help mitigate the prevalence of HIV, suicide, and violence across the transgender community [16]. However, the Philippines, where resources are in scarcity, regrettably, struggles to address the unique set of healthcare needs the transgender community requires. Moreover, the current healthcare system in the country does not necessarily function effectively for the transgender population, specifically for HIV testing and counseling (HTC) services. As a result, inclusive surveillance and data collection methods across the national transgender communities remain a challenge. Integrating the transgender population into the current Philippines HIV/AIDS surveillance system may modify this current state. Hence, it is essential to establish evidence to support the health outcomes of Filipino transgender people that will help inform program development and interventions explicitly targeted for this key population. Our study aimed to describe the characteristics of trans men (TM) and trans women (TW) who accessed the community-based transgender health center's HTC services in Metro Manila, Philippines. Moreover, we examined the relationship between gender identity and HIV testing preferences of the transgender population.

Methods

Study Setting

Victoria by Love Yourself Inc. (VLY), the Philippines' first community-based transgender health center, was established in 2016. This initiative came about in response to the needs of the transgender community particularly, on access to comprehensive and quality transgender healthcare services. It is a one-stop shop that provides holistic care that integrates transgender health and sexual health.

The VLY services include free HTC services, HIV treatment care and support, Sexually Transmitted Infection (STI) consultation and treatment, PrEP, and PEP. They also offer gender-affirming services, such as gender transitioning counseling, pre-gender affirming surgery assessment and consultation, hormone

administration, medically supervised gender-affirming hormone treatment, and even a support group for transgender people.

Study Design and Population

A retrospective study of TM and TW clients seeking care at VLY Community Center from March 2017 to December 2019 was conducted. Using routinely collected clinic data, we determined their issues relating to their sexual health, particularly their HIV testing preferences (consented or accepted HIV testing; refused or declined HIV testing). All client records of TM and TW who accessed the services of VLY were screened and included in the study using the following criteria: (1) 18–60 years old and (2) those who identify as transgender, and (3) not those who identify as otherwise including but not limited to cisgender, questioning, or genderqueer.

Data Collection

A review of medical charts was done to ascertain information from the study participants, including their age, gender identity, initial year and frequency of clinic visits, smoking and drinking statuses, use of recreational drugs, and uptake of offered HTC services. Moreover, data extraction of medical records was carried out following a developed case report form. Encoders were trained and ensured to have sufficient expertise, particularly in handling medical records. To identify inaccuracies and discrepancies during the encoding, a small subsample of at least 10% of the total records was reassessed to validate the data encoded into the developed database.

Statistical Analysis

Descriptive statistics for the clients' demographic profile, gender identity, and the HIV testing preferences outcome were calculated. Associations between every ascertained covariate and the HIV testing preference of the client (consented or accepted HIV testing; refused or declined HIV testing) were estimated using bivariable generalized linear models (GLMs) with a Poisson distribution, log link function, and a robust variance; a suitable method for cross-sectional data with a common outcome [17–19].

In addition, a multivariable GLM with also a Poisson distribution, log link function, and a robust variance was performed to estimate the adjusted effect of gender identity on the clients' HIV testing preference [17–19]. In the multivariable GLM, we controlled for age (15–24 years old; 25–34 years old; 35 years old and above), gender identity (TM; TW), frequency of clinic visit (1 visit; 2 to 3 visits; 4 visits and above), drinking status (never drinker; ever drinker), recreational drug use (never user; ever user), smoking status (never smoker; ever smoker) and year of initial consult (2017; 2018; 2019). The clients' characteristics included in the model were chosen *a priori* as potentially important predictors of HIV testing preference [20, 21]. Moreover, the GLM was fitted to account for the heterogeneity in the clients' preference on HIV testing.

For clients who availed of the HTC services of VLY, descriptive statistics were also calculated and stratified by their HIV test results (reactive vs. non-reactive) to summarize the client's study

characteristics. Furthermore, the treatment status of reactive clients was tabulated and stratified by gender identity.

Crude (cPR) and adjusted (aPR) prevalence ratio with a 95% confidence interval (95% CI) were used to report the effect size estimates for the effect of gender identity, year of initial consult, and other confounding factors on HIV testing preference. STATA 17 software (www.stata.com/stata17/) was used to carry out all statistical analyses.

Ethical Approval and Consent to Participate

Following the national guidelines, the study's research protocol received ethical approval from the University of the Philippines Manila Research Ethics Board (UPMREB) (CODE: 2021-105-01). The data gathered and client information were kept confidential and private following the Philippine Data Privacy Act of 2012. Written informed consent form, from the participants, was not required in our study. The need for informed consent was waived by the UPMREB.

Results

Table 1 shows the descriptive statistics of the characteristics of the study population. A total of 525 TW and TM were included in the study. The clients have a mean age (± SD) of 25.8 ± 5.8 years old. Most of them belonged to the 15–24 years old age bracket (46.7%) and 25–34 years old age bracket (46.1%). Approximately 13 out of 20 of the clients were identified as TM, while the rest were TW. The year 2019, as the initial consult recorded the highest number of clients (56%), while only 10% were recorded during the first year (2017) of the VLY (for details, see Table 1). Regarding the uptake of HTC services, approximately eight out of 10 clients refused or declined HIV testing. Conversely, among the 93 patients who consented or accepted HIV testing, 27 of them were TM (29%).

Table 1
Population study characteristics (N = 525).

Characteristics [a]	Values
Age, years [mean (standard deviation)]	25.8 (5.8)
Age category	
15–24 years old	245 (46.7%)
25–34 years old	242 (46.1%)
35 years old & above	38 (7.2%)
Gender identity	
Trans man	339 (64.6%)
Trans woman	186 (35.4%)
Year of initial consult	
2017	52 (9.9%)
2018	181 (34.5%)
2019	292 (55.6%)
Total visits	
1 visit	288 (54.9%)
2–3 visits	149 (28.4%)
4 visits & above	88 (16.7%)
Recreational drug	
Ever user	52 (9.9%)
Never user	473 (90.1%)
Smoking status	
Ever smoker	198 (37.7%)
Never smoker	298 (56.8%)
Missing data	29 (5.5%)
Drinking status	
Ever drinker	430 (81.9%)

[a] Distributions of variables are reported as n (%) unless otherwise specified.

Characteristics [a]	Values
Never drinker	70 (13.3%)
Missing data	25 (4.8%)
HIV testing preference	
Consented/Accepted	93 (17.7%)
Refused/Declined	432 (82.3%)

[a] Distributions of variables are reported as n (%) unless otherwise specified.

Table 2 shows the crude effect estimate of each covariate on HIV testing preference. Gender identity and a higher frequency of visits were associated with refusal/decline in HTC services at VLY. The prevalence of the non-uptake of HIV testing as a preference was 43% higher among TM clients compared to TW clients (cPR: 1.43; 95% CI: 1.28–1.59; *p*-value < 0.001). In contrast, age, year of initial consult, and lifestyle habits were not associated with HIV testing preference.

Table 2
Crude prevalence ratio (cPR) with 95 % confidence interval (95% CI) for the associations between the HIV testing preference and covariates among TM & TW.

Characteristics [a]	**Total**	**Consented/ Accepted HIV Testing (n = 93)**	**Refused/ Declined HIV Testing (n = 432)**	**cPR (95% CI) for the non-uptake of HIV testing**
Age category				
15–24 years old	245	45 (48.4%)	200 (46.3%)	1.00
25–34 years old	242	42 (45.2%)	200 (46.3%)	1.01 (0.93–1.10)
35 years old & above	38	6 (6.4%)	32 (7.4%)	1.03 (0.89–1.20)
Gender identity				
Trans woman	186	66 (71.0%)	120 (27.8%)	1.00
Trans man	339	27 (29.0%)	312 (72.2%)	1.43 (1.28–1.59)[b]
Year of initial consult				
2019	292	53 (63%)	239 (55.3%)	1.00
2018	181	31 (33%)	150 (34.7%)	1.01 (0.93–1.10)
2017	52	9 (4%)	43 (10.0%)	1.01 (0.88–1.16)
Total visits				
1 visit	288	56 (60.2%)	232 (53.7%)	1.00
2–3 visits	149	29 (31.2%)	120 (27.8%)	1.00 (0.91–1.10)
4 visits & above	88	8 (8.6%)	80 (18.5%)	1.13 (1.03–1.23) [c]
Recreational drug				
Never user	473	82 (88.2%)	391 (90.5%)	1.00
Ever user	52	11 (11.8%)	41 (9.5%)	0.95 (0.82–1.10)
Smoking status				
Never smoker	298	58 (65.2%)	240 (59.0%)	1.00
Ever smoker	198	31 (34.8%)	167 (41.0%)	1.05 (0.96–1.14)
Drinking status				

[a] Distributions of variables are reported as n (%); [b] *p*-value < 0.001; [c] *p*-value < 0.01.

Characteristics [a]	Total	Consented/ Accepted HIV Testing (n = 93)	Refused/ Declined HIV Testing (n = 432)	cPR (95% CI) for the non-uptake of HIV testing
Never drinker	70	17 (19.1%)	53 (12.9%)	1.00
Ever drinker	430	72 (80.9%)	358 (87.1%)	1.10 (0.96–1.26)

[a] Distributions of variables are reported as n (%); [b] *p*-value < 0.001; [c] *p*-value < 0.01.

Figure 1 shows the estimated adjusted effect of gender identity and the other covariates on the non-uptake of HTC service of the study population using the multivariable GLM. A total of 495 clients with complete data on their medical records were included in the final adjusted model. Results showed that the prevalence of not getting tested for HIV is 48% higher among TM clients (aPR: 1.48; 95% CI: 1.31 to 1.67; *p*-value < 0.001) compared to TW clients. In addition, clients who initially consulted during the first year of the VLY, which was 2017, had a 25% higher prevalence of not getting tested for HIV (aPR: 1.25; 95% CI: 1.08 to 1.43; *p*-value = 0.002) than clients who initially consulted in 2019. However, age, frequency of clinic visits, and lifestyle characteristics, including smoking, drinking, and recreational drugs, did not affect their HIV testing preference uptake (See Supplemental Table 1 for more details).

Clients who consented or accepted HTC services from the VLY were further described in Table 3 and stratified according to their HIV test results. Approximately nine out of 10 clients were non-reactive, and most of them were TW (69%). In terms of year of consult, most of the reactive patients were observed in 2019, and the same year also recorded the most number of clients who availed the HTC services (57%). In addition, most clients who tested reactive were on treatment (88%), and one TW client was lost to follow up. Out of the eight reactive clients, three were already virally suppressed, and the other four were on ART (See Table 4 for details).

Table 3
Characteristics of patients who availed HIV Testing and Counselling (HTC) service, stratified by their HIV test result (N = 93).

Characteristics [a]	**Total (n = 93)**	**Non-Reactive (n = 85)**	**Reactive (n = 8)**
Age, years [mean (SD)]	25.6 (5.7)	25.4 (5.6)	27.5 (6.9)
Age category			
15–24 years old	45 (48.4%)	42 (49.4%)	3 (37.5%)
25–34 years old	42 (45.2%)	38 (44.7%)	4 (50.0%)
35 years old & above	6 (6.4%)	5 (5.9%)	1 (12.5%)
Gender identity			
Trans man	27 (29.0%)	26 (30.6%)	1 (12.5%)
Trans woman	66 (71.0%)	59 (69.4%)	7 (87.5%)
Year of initial consult			
2017	9 (9.7%)	9 (10.6%)	0 (0.0%)
2018	31 (33.3%)	28 (32.9%)	3 (37.5%)
2019	53 (57.0%)	48 (56.5%)	5 (62.5%)
Total visits			
1 visit	56 (60.2%)	50 (58.8%)	6 (75.0%)
2–3 visits	29 (31.2%)	27 (31.8%)	2 (25.0%)
4 visits & above	8 (8.6%)	8 (9.4%)	0 (0.0%)
Recreational drug			
Ever user	11 (11.8%)	11 (12.9%)	0 (0.0%)
Never user	82 (88.2%)	74 (87.1%)	8 (100.0%)
Smoking status			
Ever smoker	31 (33.3%)	31 (36.5%)	0 (0.0%)
Never smoker	58 (62.4%)	50 (58.8%)	8 (100.0%)
Missing data	4 (4.3%)	4 (4.7%)	
Drinking status			

[a] Distributions of variables are reported as n (%) unless specified otherwise.

Characteristics [a]	Total (n = 93)	Non-Reactive (n = 85)	Reactive (n = 8)
Ever drinker	72 (77.4%)	66 (77.7%)	6 (75.0%)
Never drinker	17 (18.3%)	15 (17.6%)	2 (25.0%)
Missing data	4 (4.3%)	4 (4.7%)	

[a] Distributions of variables are reported as n (%) unless specified otherwise.

Table 4
Reactive and treatment status of reactive patients, stratified by gender identity (N = 8).

Characteristics [a]	Total (n = 8)	Trans Men (n = 1)	Trans Women (n = 7)
On treatment			
Yes	7 (87.5%)	1 (100%)	6 (85.7%)
Missing/Loss to follow up	1 (12.5%)	0 (0%)	1 (14.3%)
Reactive status			
Virally suppressed	3 (37.5%)	1 (100%)	2 (28.6%)
On ART	4 (50.0%)	0 (0%)	4 (57.1%)
Missing/Loss to follow up	1 (12.5%)	0 (0%)	1 (14.3%)

[a] Distributions of variables are reported as n (%) unless specified otherwise.

Discussion

Several factors may increase the risk of transgender populations for HIV infection. Trans women were identified as having more significant risks for acquiring HIV infection than other transgender populations. They were also least likely to receive any HIV treatments or interventions and other preventative services [2, 22–24]. The transgender community is also known to experience an increased risk for sexual behaviors, family rejection, stigma, discrimination, and safety concerns [25–27]. In addition, numerous individual, social, and interpersonal factors provide an interplay in terms of the experiences the transgender community experiences [28, 29].

Report on the education and training for health professionals in the Philippines provided information on the adequacy of the current health curricula in terms of the HIV response [30]. Moreover, the Integrated HIV Behavioral and Serologic Surveillance embedded in the Health Sector Plan for HIV and STI 2015 to

2020 of the Philippine Department of Health (DOH), an active sentinel serologic and behavioral surveillance, suggested actions to increase HIV and HIV-related services both for the transgender (TG) and men-having-sex-with-men (MSM) populations [31, 32]. However, the guidelines for the increase in uptake for HTC services among the TW and TM should be further strengthened because of the existing barriers to testing.[33] Our study aimed to identify the factors that enable the TG populations to refuse or decline HIV testing services. Through medical records review, our study showed that most TM did not consent or accept HIV testing services from the VLY, and they are more likely to refuse HIV testing services compared to TG.

Our results conformed with the prevalence report of the Center for Disease Control (CDC) recommended guidelines for HIV and Sexually Transmitted Infection (STI), wherein suboptimal trends on HTC services were observed among TG [34]. This finding is congruent with the results that TM did not know their HIV status [35]. However, one study on TG youth showed that TW was significantly less likely to get tested for HIV compared with TM [36]. Contrary to this finding, a recent publication on an extensive survey from the United States consisting of 26,927 TG respondents in 2015 revealed that TW had significantly higher odds of reporting their HIV status than TM [37], which was also seen in our study. In addition, the most common reason for never testing for HIV among TM was a low-risk perception of their sexual activities. Low-risk perception as a significant barrier to HIV testing was also seen in previous studies [38–41], not only among TG populations. Others reasons for TM or TW not getting their HIV testing also included fear of HIV-related stigma and discrimination [42, 43], insufficient knowledge on HIV/AIDS or poor health literacy [44, 45], and limited availability due to lack of time [46]. Further investigation on why TM and TW in VLY not knowing their HIV status because of refusal should be conducted to engage more TM and TW clients in HTC services. Moreover, increasing willingness for HIV self-testing among TM or TW to ensure one's safety and confidentiality is an approach that can also be explored [47, 48].

The third-year since the launch of VLY in 2017 recorded the highest number of TM and TW clients consenting to HIV testing. Furthermore, our results showed that these clients in 2019 were more likely to get themselves tested for HIV compared with clients during the formative years of VLY. As an exclusive health center for the transgender community under the supervision of LoveYourself Inc., Victoria was initially established to provide HTC [49]. Over the years, through community consultations, partnerships with LGBTQIA + organizations, and transgender health capacity building of the community center, VLY officially rolled out their gender-affirming services, the first in the Philippines. The one-stop-shop model of integrating sexual health services and transgender health could translate to the gradual increase of HIV testing uptake among VLY clients. This strategy further establishes that gender-affirming care services can be an entry point in accessing HIV services.

Similarly, research has suggested that a gender-affirmative integrated care framework complemented by peer navigation effectively addresses the HIV burden experienced by the transgender population [50]. Our results also showed that the later years of VLY operations had established trust and confidence with its TM and TW clients to encourage them to avail themselves of the HTC services. Building trust and rapport between physicians, HTC service providers, and clients are crucial in all central HIV testing practices [51].

The integral approach in establishing trust is, to begin with, simple steps, to take part in clients with small successes, and to show dedication and commitment through continuous communication [52]. VLY used this strategy to build trust and rapport with TW and TM clients, which was also seen in previous studies conducted by other HTC providers [53, 54]. The establishment of VLY as a community-based transgender health center for TM and TW provides an essential avenue for these populations to avail HTC services in confidence and without the stigma.

HIV testing lacking good motivational counseling and linkage to care may not be effective [55]. Our study provided information on reactive TG clients in which almost all of them were linked to care, particularly in HIV treatment through ART. Engagement in HIV care among all vulnerable populations, not only TG clients, is essential in the HIV care continuum. The role of HTC service providers such as VLY in the delivery of services and building relationships is characterized by their provision of time and emotional and social support to their clients [56, 57]. However, previous studies documented low ART coverage among TG respondents [58–60]. Nevertheless, our findings demonstrated improved access and link to care among HIV-reactive TW and TM clients of VLY, similar to another published study [61].

To our knowledge, this is the first quantitative retrospective study conducted in the Philippines that looked at the HIV testing preferences of TM and TW clients. Using a modest sample size of client records, we presented the disparity between characteristics of TM and TW accessing HTC services in Metro Manila and their linkage to further HIV treatment after testing reactive. Through continuous monitoring and engagement of TM and TW in the community-based transgender health center, the identified disparities and gaps provided an opportunity for the VLY to enhance its services for TM and TM accessing HTC services. Furthermore, by gradually eliminating these gaps through the retention of commitment and trust built around with clients and proper dissemination of the availability of HTC services for TM and TW, HIV cases may be reduced.

However, this current study is limited by its retrospective study design in which participants are recruited by convenience sampling and may be prone to selection bias. Moreover, our study did not account for sexual orientation. TM, who have sex with men, and TM, who have sex with TW, are increasingly at risk of HIV. Given the current growing number of national and global programs focused on TW, and not TG in general, the exploration of HIV testing preference in terms of sexual preference has important implications on TM not perceiving they are actually at risk for the infection. In addition, the potential effect of unmeasured confounding factors (HIV-related social stigma and discrimination) or residual confounding factor bias should not be dismissed. Furthermore, we only involved TM and TW clients who accessed VLY from 2017 to 2019, which may not be representative of other TM and TW clients in other parts of the Philippines, other races, and other vulnerable populations at risk for HIV. Further studies are needed to validate our findings across all other populations.

Conclusion

The role of early HTC services in the reduction of increasing HIV cases is an essential approach in the HIV care spectrum, especially to vulnerable populations such as the TG community. In our study, HTC service uptake of TM and TW is low. Our study, which demonstrated the refusal rate of HIV testing among transgender populations, particularly among TM, presented an opportunity for the HIV program implementers in the Philippines to reach this group to provide the HTC services they need.

List Of Abbreviations

aPR	Adjusted Prevalence Ratio
ART	Antiretroviral therapy
CDC	Center for Disease Control
CI	Confidence Interval
cPR	Crude Prevalence Ratio
DOH	Department of Health
GLM	Generalized Linear Models
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counselling
MSM	Men-having-sex-with-men
PrEP	Pre-Exposure Prophylaxis
PEP	Post-Exposure Prophylaxis
SD	Standard Deviation
STI	Sexually Transmitted Diseases
TM	Trans men
TW	Trans women
VLY	Victoria by LoveYourself Inc.

Declarations

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Authors' Contributions

All named authors conceptualized the study developed the protocol. ESB, PCE, AVC, and ZGR led the cleaning and sorting of the data collected. ESB performed the statistical analyses. ZGR and ESB wrote the first draft of the manuscript. All authors helped with the revision of the manuscript. All authors have agreed on the final version.

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Ethical Approval and Consent to Participate

Following the national guidelines, the study's research protocol received ethical approval from the University of the Philippines Manila Research Ethics Board (UPMREB) (CODE: 2021-105-01). The data gathered and client information were kept confidential and private following the Philippine Data Privacy Act of 2012. Written informed consent form, from the participants, was not required in our study. The need for informed consent was waived by the UPMREB.

Consent for Publication

Not applicable.

Author Disclosure Statement

No competing financial interests exist.

Availability of data and materials

The original data are not available for sharing to protect the confidentiality of the clients. For further inquiries, email may be sent to the corresponding author, Dr. Emmanuel S. Baja (esbaja@up.edu.ph).

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Figures

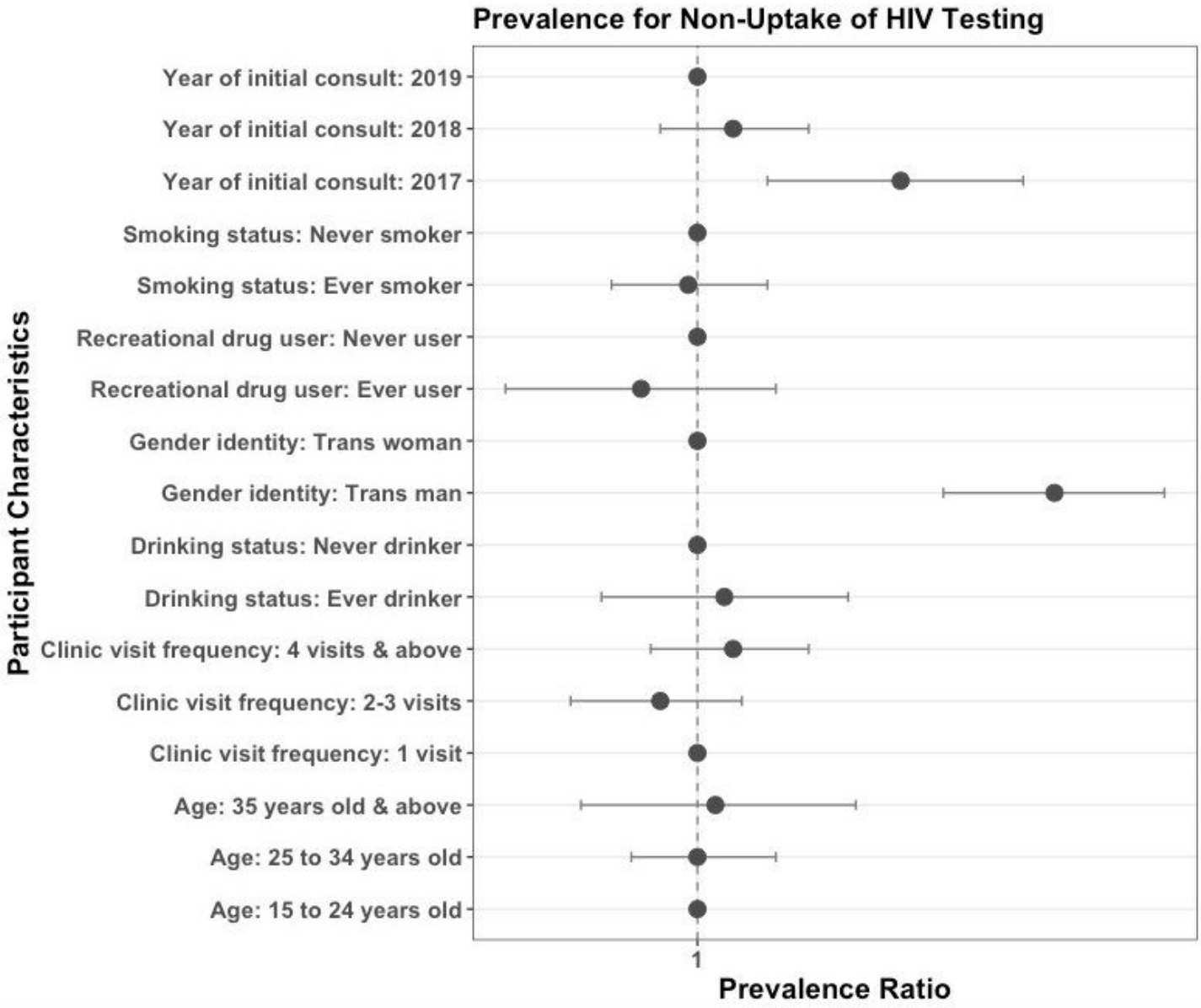

Figure 1

Adjusted prevalence ratio for the effect of gender identity and various factors on HIV testing preference of trans man (TM) and trans woman (TW.) All models were adjusted for age (15 – 24 years old; 25 – 34 years old; 35 years old & above), gender identity (TM; TW), frequency of clinic visit (1 visit; 2 to 3 visits; 4 visits & above), drinking status (never drinker; ever drinker), recreational drug use (never user; ever user), smoking status (never smoker; ever smoker) and year of initial consult (2017; 2018; 2019). Error bars indicate a 95% confidence interval.

Supplementary Files

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